Attachment 8 – Quality Assurance

Att8_LGA12_NSJCGBA_QA_1of1

Demonstrate that appropriate and well-defined Quality Assurance and Quality Control (QA/QC) measures will be used in each task. The information-gained discussion and QA/QC plan in this section should be consistent and incorporated into the project work plan. QA/QC measures may include, but are not limited to the following:

- *Procedural assurances, such as review processes for quality of reports, data, and lab analyses*
- *An existing or proposed QA/QC plan for field sampling and lab analysis of water quality that ensures high accuracy and precision*
- *Personnel qualifications that may include professional registrations (such as a California Professional Geologist or Professional Engineer), certifications, and experience of persons performing and overseeing work to be performed*
- *Standardized methodologies to be used, such as construction standards, health and safety standards, laboratory analysis, or accepted soils classifications methods*
- *Standardized analyses, such as statistical tests or American Society for Testing and Materials and U.S. Environmental Protection Agency analytical methodologies*
- *Quality requirements of material or computational methods, such as use of specific grades of building materials or use of specific, tested, and established models (or software)*
- *Comparison and calibration of models with actual data to enhance accuracy of modeling results*

The San Joaquin County Groundwater Banking Model development, testing, and scenario analysis will be subject to a rigorous, peer-reviewed quality assurance and quality control process. As applied to this project, quality assurance is the process to assure that contract requirements are met, the correct objectives are being pursued, and the results are suitable for the intended purpose. Quality control includes managing the budget and schedule, as well as establishing and measuring performance metrics, technical approach, and documentation.

Quality assurance techniques employed by the Groundwater Banking Authority administrators include a thorough consultant selection and procurement process, project management and oversight, and a progress monitoring and reporting system. The proposed Work Plan has been developed to be project-specific yet generic enough to attract a wide selection of potential consultants. As part of this inclusive consultant selection process, proposers will be required to demonstrate their qualifications and expertise to perform the specified work. The proposals received to perform the Work Plan will be reviewed by three or more independent members of the Consultant Selection Committee, who will then meet to compare assessments and make recommendations on which proposers will be invited to the next level of the process. The consultant selection is a qualifications-based process so costs will not be considered in this initial assessment, but will be reviewed for reasonableness and possibly negotiated with the selected consultant to stay within budgetary guidelines.

Once a consultant is selected, the GBA project manager will maintain regular communication with the project team to ensure conformance with the project scope and project purpose. Regular written monthly progress reports will be required showing a comparison to the budget, schedule, and project deliverables. At specified progress nodes, the project manager will meet with the project team and provide approval and/or directives on matters such as model configuration, calibration standards, and scenarios to be studied. The consultant will be required to document all assumptions in writing, and to maintain project records in a location reasonably accessible to the County project manager.

Quality control techniques will include requirements to utilize the industry-standard public domain MODFLOW model developed by the U.S. Geological Survey (USGS). Use of this standardized tool will ensure that model results can be replicated and confirmed by multiple parties. Since the MODFLOW model code is maintained by USGS, the project will have lasting value and will be able to address future modeling and monitoring tasks with minimal additional local cost. Water demand inputs will be compared to local UWMPs to confirm their magnitude, source of supply, and distribution. Water level calibration standards will be set early in the process, and will be used to judge when the model adequate reflects the physical system. Quality control requirements are specified within the Work Plan (Attachment 5) with respect to calibration, parameter estimation, boundary conditions, history matching, and sensitivity analysis (see Attachment 5, Tasks 3.2, 3.3, 3.4, 4.4, 5.1, and 5.2). All draft documents will be reviewed for correctness and approved by senior internal consultant QC managers before being provided to the GBA. The GBA project manager will review and approve all draft documents before their release to the general public.

The GBA project manager will review consultant invoices and progress reports and may withhold payments if work products are not in conformance with the project objectives and performance standards. At the completion of the Scope of Work and acceptance of work products, the GBA project manager will release the final 10 percent of the compensation to the consultant.